

JAPANESE PATENT OFFICE – Patent Abstracts of Japan

Publication Number: 10310494 A

Date of Publication: 1998.11.24

Int.Class: C30B 29/04

Application Number: 09157642

Date of Filing: 1997.05.30

Applicant: NGK SPARK PLUG CO LTD

Inventor: SAGUCHI HIROMI

OKAMURA TAKASHI

IIO SATOSHI

PRODUCTION OF CEMENTED CARBIDE
MEMBER WITH DIAMOND COATING FILM

Abstract:

PROBLEM TO BE SOLVED: To obtain a cemented carbide member excellent in peeling resistance by immersing a WC-base cemented carbide substrate formed in a required shape in an aq. alkali chloride soln., cleaning the surface of the substrate by electrolytic etching at a specified max. rate of removal for a specified time and forming a diamond coating film by a vapor phase synthesis method.

SOLUTION: The surface of the cemented carbide substrate is electrolytically etched at 0.2-1.5 $\mu\text{m}/\text{min}$ max. rate of removal for 3-30 min. The substrate is based on WC and contains 0.3-10 wt. (expressed in terms of carbides), in total, of one or more of carbides, nitrides or carbonitrides of Ti, Ta, Nb and V and preferably contains 2-10 wt.% Co and/or Ni. The concn. of the alkali chloride soln. is preferably 0.5-20 wt.%. Current density in the surface of the substrate is preferably 0.03-0.30 A/cm

COPYRIGHT: (C)1998,JPO